



ERJ

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **Hitoshi TAKAMURA et al.**

Group Art Unit: 1754

Serial No.: 10/510,343

Filed: October 5, 2004

Confirmation No.: 8366

For: **COMPOSITE-TYPE MIXED OXYGEN ION AND ELECTRONIC  
CONDUCTOR AND METHOD OF MANUFACTURING THE SAME**

Attorney Docket Number: 042843

Customer Number: 38834

**REQUEST FOR CORRECTED FILING RECEIPT**

**Mail Stop: Missing Parts**  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Date: April 19, 2005

Sir:

Please supply the undersigned attorney with a corrected filing receipt for the above-identified application. The undersigned also respectfully requests that the Patent and Trademark Office records be amended to reflect the correction.

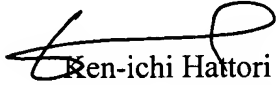
In reviewing the Official Filing Receipt, we noted an error in **the Title**. The title should read --**COMPLEX MIXED CONDUCTOR AND ITS PREPARING METHOD**--. A copy of **WO 03/084894** is enclosed which indicates the correct information. We are also enclosing a copy of the filing receipt with the corrections highlighted.

Request for Corrected Filing Receipt  
10/510,343  
042843



In the event any fees are required in connection with this paper, please charge Deposit  
Account No. 50-2866.

Respectfully submitted,  
**WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP**

  
Ken-ichi Hattori  
Attorney for Applicants  
Registration No. 32,861  
Telephone: (202) 822-1100  
Facsimile: (202) 822-1111

KH/if  
Enclosures: Official Filing Receipt; WO 03/084894



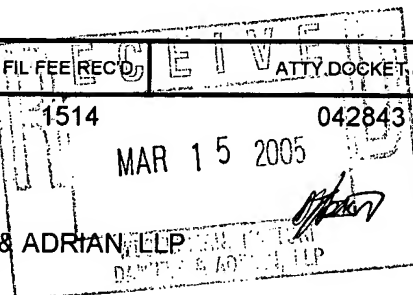
## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/510,343	10/05/2004	1754	1514	042843	9	12	6

38834

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
 1250 CONNECTICUT AVENUE, NW  
 SUITE 700  
 WASHINGTON, DC 20036



CONFIRMATION NO. 8366

## FILING RECEIPT



\*OC000000015404543\*

Date Mailed: 03/10/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Hitoshi Takamura, Miyagi, JAPAN;  
 Masuo Okada, Miyagi, JAPAN;

**Power of Attorney:** The patent practitioners associated with Customer Number 38834.

## Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP03/04435 04/08/2003

## Foreign Applications

JAPAN 2002-108504 04/10/2002

**Projected Publication Date:** 06/16/2005

**Non-Publication Request:** No

**Early Publication Request:** No

## Title

~~Complex~~ Complex mixed conductor and its preparing method

Preliminary Class

502

---

**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

- This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

(19) 世界知的所有権機関  
国際事務局



(43) 国際公開日  
2003年10月16日 (16.10.2003)

PCT

(10) 国際公開番号  
WO 03/084894 A1

- (51) 国際特許分類<sup>7</sup>: C04B 35/50, H01B 1/08 (72) 発明者; および  
(21) 国際出願番号: PCT/JP03/04435 (75) 発明者/出願人 (米国についてのみ): 高村 仁  
(22) 国際出願日: 2003年4月8日 (08.04.2003) (TAKAMURA, Hitoshi) [JP/JP]; 〒981-0952 宮城県 仙台市 青葉区中山 6-25-3 Miyagi (JP). 岡田 益男  
(25) 国際出願の言語: 日本語 (74) 代理人: 平山 一幸 (HIRAYAMA, Kazuyuki); 〒160-0022 東京都 新宿区 新宿 2-3-10 新宿御苑ビル  
(26) 国際公開の言語: 日本語 6階 Tokyo (JP).  
(30) 優先権データ: (81) 指定国 (国内): JP, US.  
特願2002-108504 2002年4月10日 (10.04.2002) JP 添付公開書類:  
(71) 出願人 (米国を除く全ての指定国について): 科学技術 ー 国際調査報告書  
振興事業団 (JAPAN SCIENCE AND TECHNOLOGY CORPORATION) [JP/JP]; 〒332-0012 埼玉県 川口市 2文字コード及び他の略語については、定期発行される  
本町 4-1-8 Saitama (JP). 各PCTガゼットの巻頭に掲載されている「コードと略語  
のガイダンスノート」を参照。

(54) Title: COMPLEX MIXED CONDUCTOR AND ITS PREPARING METHOD

(54) 発明の名称: 複合体型混合導電体及びその作製方法



GDC (酸素イオン導電相)  
GDC (OXYGEN ION CONDUCTIVE PHASE)

(57) Abstract: The oxygen ion conductive phase comprises a gadolinium-added cerium oxide (GDC), and the electron conductive phase comprises a spinel Fe complex oxide (CFO). The grain size of both phases are 1  $\mu\text{m}$  or less. The phases are heterogeneously mixed and form respective conductive networks. The phases have low mutual solid solubility. The phases hardly react with each other, and if a chemical reaction between them is caused, no heterophase disturbing the mix conductivity is produced. The complex mixture conductor has a high oxygen permeability and hardly degrades with time.

(57) 要約: 酸素イオン導電相がガドリニウム添加セリウム酸化物 (GDC) からなり、電子導電相がスピネル型 Fe 複合酸化物 (CFO) からなり、両相の粒径はそれぞれ 1  $\mu\text{m}$  以下であり、両相が互いに均一に混合し、両相が各々導電ネットワークを形成している。両相は、互いに低い固溶度を有しており、かつ、両相間の化学反応が起こりにくく、また両相間で化学反応が起こっても混合導電性を阻害する異相が生じない。酸素透過性が高く、経時劣化も起こりにくい複合体型混合導電体である。

WO 03/084894 A1

Best Available Copy